

Interview Summary	Application No.	Applicant(s)	
	10/696,152	BROGHAMMER ET AL.	
	Examiner	Art Unit	
	Erica E. Cadugan	3722	

All participants (applicant, applicant's representative, PTO personnel):

(1) Erica E. Cadugan. (3) _____.

(2) Jay Durst. (4) _____.

Date of Interview: 14 June 2006.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: claim 1.


Identification of prior art discussed: U.S. Pat. No. 6,270,295 to Hyatt et al..

Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.


ERICA CADUGAN
PRIMARY EXAMINER
6/14/06

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments:

Firstly, Applicant provided the attached proposed amendment and comments. Examiner prepared a written response to that proposed amendment and comments, which is attached hereto.

Secondly, during the interview, Applicant also indicated their position that the pressure "chamber" 338, 342, 344, etc. (Fig. 5) of Hyatt described by Examiner in the final rejection, should not be considered a "chamber" as the plain meaning of "chamber" would indicate that the "chamber" had to be enclosed, and Applicant supplied a dictionary definition of "chamber" such as "compartment or cavity: an enclosed space, compartment, or cavity, e.g. one inside a machine, the body, or a plant; the chambers of the heart" as an example of such a plain meaning definition. Examiner disagreed, noting that neither the claim language nor the plain meaning definition set forth that the chamber must be "fully" enclosed (as a side note not mentioned during the interview, Examiner notes that for example, an office is a chamber, whether or not the door thereto is open).

Applicant indicated that they would be willing to claim that the chamber was an "enclosed" chamber, though not a "fully enclosed" chamber. Examiner notes that the chamber 338, 342, 344, etc. of Figure 5 of the Hyatt reference is "enclosed" on multiple sides (see at least portions 342 and 344).

Additionally, however, Examiner notes that even if Applicant does include a limitation that the chamber is "fully enclosed", the case is under final rejection, and such would be a change in scope to the claim that would require at least further consideration and that would possibly require further search. As another side note not mentioned during the interview, Examiner notes that U.S. Pat. No. 4,224,846 to Eysel et al. would appear to read on at least claim 1 (even if the "fully enclosed" language was adopted to overcome the Hyatt reference), noting that cutter 7 is used for fine machining (see col. 2, line 59) and is mounted with respect to a "cutter support" 1 having a longitudinal axis (extending in the left-right direction as viewed in Figure 1). The "cutter support" 1 borders at least one fully enclosed "pressure chamber" 11 which is arranged in an "adjustment direction" (in the radial or vertical, as viewed in Figure 1, direction) of the "cutter" 7, which pressure chamber 11 is spaced from or "displaced" with respect to the cutter 7 in the radial direction. The pressure chamber 11 is filled with a "pressure transfer means" in the form of oil or other driving liquid (see at least col. 2, lines 67-68), which oil or driving liquid is placed under pressure with a "pressure generation device" in the form of piston cylinder arrangement 17+15+14+13. Between the cutter 7 and the pressure chamber 11 is a "cutter support wall" 6 that is "elastically deformable upon application of pressure by the pressure transfer means to adjust the cutter position" (i.e., the previously described pressure generation device generates pressure which is applied to driving piston 9 which thus applied to "cutter support wall" 6 to thereby "deform" or bend the cutter support wall 6 to thereby radially move the cutter 7 with respect to the cutter support 1 (see Figure 1, see also at least col. 3, lines 1-60). Thus, it does not appear that such a change to claim 1 would render the claim patentable over the prior art as a whole.

Additionally, during the interview, Applicant also indicated their position that the pressure "chamber" 338, 342, 344, etc. was not "arranged in the adjustment direction of the at least one cutter with a displacement with respect to the at least one cutter". However, this is not persuasive, as Examiner notes that the adjustment direction of the cutter 326 is radial, i.e., the generally up and down direction as viewed in Figure 5, and that the pressure chamber 338, 342, 344, etc. is spaced or displaced radially from the cutter 326 (see Figure 6). Applicant further asserted that the wall 334 does not "deform", but instead just "bends". However, Examiner notes that the "bending" is a "deformation".

ATTACHMENT TO INTERVIEW SUMMARY



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FACSIMILE TRANSMITTAL SHEET

TO:	EXAMINER ERICA E. CADUGAN	FROM:	JAY G. DURST
COMPANY:	USPTO	DATE:	MAY 23, 2006
FAX NO.:	571-273-4474	PAGES:	10 (INCLUDING COVER)
RE:	DRAFT REPLY	OPERATOR:	TPV

OUR FILE NO. 696.022

<input type="checkbox"/> Original Will Follow	<input type="checkbox"/> Original Will Not Follow	<input type="checkbox"/> Enclosures Will Follow With Original		
<input type="checkbox"/> Urgent	<input type="checkbox"/> For Review	<input type="checkbox"/> Please Comment	<input type="checkbox"/> Please Reply	<input type="checkbox"/> Please Recycle

Examiner Cadugan,

On behalf of Mr. Jay G. Durst, I am forwarding the attached draft Reply with respect to US Ser. No. 10/696,152, filed October 29, 2003.

With best regards,

Thomas P. Vita, Jr.

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ATTACHMENT TO INTERVIEW SUMMARY

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date specified below.

Thomas P. Vita, Jr.

Date: _____

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 10/696,152

Examiner: Erica E. Cadogan

Filing Date: 10/29/2003

Group Art Unit: 3722

Inventor: Broghammer et al.

For: Adjustment Device for a Fine Machining Tool

Attorney Docket No. 696.022

DRAFT - REPLY - DRAFT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated September 10, 2004, please amend the above-identified application as follows:

Amendments to the Specification begin on page 2 of this paper

Amendments to the claims begin on page 3 of this paper.

Remarks begin on page 6 of this paper.

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In the Specification:

On page 10, line 20, please add the following paragraph,

--Fig. 7a is a lateral view of a centrally restrained reamer according to the invention;--

Amendments to the Claims:

The following listing of claims will replace all prior versions and listing of claims in the application.

1. (Currently Amended) An adjustment device for adjusting the [?] position of at least one cutter of a fine machining tool with respect to a cutter support, the cutter support having a longitudinal axis, the adjustment device comprising:

the cutter support [~~being substantially unitary and~~] bordering at least one pressure chamber which is arranged in an [the] adjustment direction of the at least one cutter with a displacement with respect to the at least one cutter and which is filled with a pressure transfer means which can be placed under pressure with a pressure generation device, wherein

between the at least one cutter and the at least one pressure chamber a cutter support wall remains which is elastically deformable upon application of pressure by the pressure transfer means to adjust the [at least one cutter] position.

2. (Previously Presented) The adjustment device according to claim 1, wherein the at least one cutter and the pressure chamber are arranged in alignment in the adjustment direction.

3. (Currently Amended) The adjustment device according to claim 1, wherein the length (LD) of the at least one pressure chamber in the orthogonal direction to the adjustment direction corresponds essentially to the length (LS) of the at least one cutter.

4. (Currently Amended) The adjustment device according to claim 1, wherein the length of the pressure chamber in the orthogonal direction to the adjustment direction is limited to the region [of the] a tool corner corresponding to the at least one cutter.

5. (Previously Presented) The adjustment device according to claim 1, wherein the elastic deformation between the at least one pressure chamber and the at least one cutter lies in the size range of the cutter adjustment.

6. (Previously Presented) The adjustment device according to claim 1, wherein the pressure transfer means is an at least approximately incompressible fluid.
7. (cancelled)
8. (Previously Presented) The adjustment device according to claim 1, wherein the pressure generation device includes a screw which can be screwed into a blind threaded hole.
9. (Previously Presented) The adjustment device according to claim 8, wherein the blind threaded hole is separated by an axial distance from the at least one pressure chamber and is connected to the at least one pressure chamber via connecting channels.
10. (Previously Presented) The adjustment device according to claim 8, wherein there is a predetermined relationship between an input quantity of the pressure generation device and the resulting positional adjustment of the at least one cutter.
11. (Previously Presented) The adjustment device according to claim 1, wherein the position of the at least one cutter is adjustable in the radial direction.
12. (Previously Presented) The adjustment device according to claim 1, wherein the at least one pressure chamber is formed with a ring shape.
13. (cancelled)
14. (Currently Amended) The adjustment device according to ~~one of the claims~~ claim 1, wherein the cutter support is a tool mounting basic element.
- 15-18. (cancelled)

19. (Currently Amended) An adjustment device according to claim 14, wherein the tool mounting basic element includes [the] a central tool holder with an assigned expansion chuck.

20. (cancelled)

21. (Previously Presented) The adjustment device according to claim 19, wherein the adjustment device and the expansion chuck have separate pressure chambers which have a pressure coupling.

22. (cancelled)

23. (Previously Presented) A fine machining tool comprising an adjustment device according to claim 1.

Please add the following new claim:

24. (New) The adjustment device according to claim 1, wherein the at least one cutter includes at least three cutters and the at least one pressure chamber includes at least three pressure chambers corresponding to respective ones of the cutters, and wherein the pressure chambers are arranged in a corresponding adjustment direction, and wherein at least two of the adjustment directions are different.

REMARKS

Entry of the above amendments is respectfully requested. Claims 1, ___ have been amended. Claims 1-6, 8-12, 14, 19, 21 and 23 are pending in the application. Favorable reconsideration and allowance of this application is respectfully requested in light of the foregoing amendments and the remarks that follow.

Initially, Applicant acknowledges with appreciation the indication of allowable subject matter in claims 8-10. However, in view of the present amendments and the below arguments, Applicant has chosen not to re-write these claims at this time.

Next, Applicant acknowledges the §112 issues with the claims and has amended the claims to appropriately overcome the antecedent basis problems. An indication to this effect is respectfully requested.

The preferred embodiments are directed to an adjustment device for a fine machining tool which is used to position one or more cutters of the tool which are mounted on a cutter support. An offset or adjustment of the cutter(s) is achieved using an appropriately located pressure chamber disposed adjacent to a cutter support wall and positioned in an adjustment direction. Generally, application of pressure by a pressure transfer means in the pressure chamber directly causes the cutter support wall, which is elastically deformable, to flex and thus cause a positional displacement of the cutter in the adjustment direction at the location of the pressure chamber/cutter support wall. Through appropriate manipulation of the pressure generation device and the position of the pressure chamber/elastically deformable cutter support wall, the position of the cutter can be adjusted in the desired manner.

With respect to U.S. Pat. No. 6,270,295, which corresponds to WO 02/060624 A2 (co-pending European patent application), the tool disclosed has an axial slot so that the two halves of the tool can be spread apart by using fluid pressure. (See, *e.g.*, Figure 5, two-part construction 334, 336) By providing such an arrangement, the *Hyatt et al.* patent allows only radial adjustment of the cutting edges in order to achieve different cut. Rather, in the preferred embodiments, the cutting edges can be adjusted axially or at an angle by appropriately placing "pressure chambers" and associated deformable "cutter support walls" at selected positions.

More particularly, *Hyatt et al.* disclose a tool that, upon application of pressure, causes two-part separation of the tool end. In response, the two halves of the tool are deflected as a whole so that the cutting edges can be adjusted only at the end of the tool. Moreover, given the two-part separation of the tool end, the tool is limited to radial displacement of cutting edges which lie diametrically opposed to one another. As a result, there is no way to adjust cutting edges of a boring tool that has three circumferentially distributed cutting edges (for example, the so-called "Dreischneider"). Please see new claim 24.

A still further effect of the two-part separation of the tool end is that it is only possible to adjust both the cutting edges either simultaneously, or when the slot (*e.g.*, Figure 5 or Figure 20, 938) lies outside the center, in a pre-determined proportion of the adjustment means. In other words, the cutting edges cannot be controlled individually and independently of one another, which is in direct contrast to the present invention as defined in Claim 1 which defines pressure chambers that are appropriately positioned together with deformable cutter support walls to provide fine adjustability of cutter positions in selected directions. Finally, due to the two-part

separation of the tool end, pressure fluid tends to leak from the tool ends so that as the two halves are spread apart the amount of pressure that can be generated is limited.

In view of the present amendments and the above arguments, claim 1 is not anticipated by the *Hyatt et al.* patent. Similarly, claims _____ dependent on allowable claim 1, as well as new claim 244, are likewise allowable. An indication to this effect is respectfully requested.

CONCLUSION

In view of the present amendments and the above arguments, it is submitted that claims 1, _____ are in compliance with 35 U.S.C. Sections 102, 103 and 112 and as such each define patentable subject matter. A Notice of Allowability is therefore respectfully requested. The Examiner is invited to contact the undersigned by telephone if it would help expedite the prosecution and allowance of this application.

No fees are believed to be payable with this communication. Nevertheless, should the Examiner consider any other fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170.

Respectfully submitted,

DRAFT

Jay G. Durst, Reg. No. 41,723

Dated: May 22, 2006
BOYLE, FREDRICKSON, NEWHOLM,

{00100678.DOC /}

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Attachment to Interview Summary

Written response to the Proposed Amendment and Comments

Firstly, if the proposed amendment was filed in the current after-final situation, , it would not be entered.

Note that new claim 24 1) creates a new issue that would require further consideration and possibly further search (with the whole "three cutters" thing), 2) appears to introduce subject matter not shown in the claims in the form of the "at least three cutters" and especially in the "at least three pressure chambers", and 3) appears to introduce new matter at least in the form of the at least three pressure chambers. Re the pressure chambers, note that as shown in Figure 7 (the elected embodiment) and described on page 15, pressure chamber 304 which is used to adjust the radial position of the cutter S is described as "ring-shaped", i.e., it appears to extend all the way around the longitudinal cutter axis. There do not appear to be three separate pressure chambers for moving three cutters.

Also note that claim 4 appears to create a new issue that would require at least further consideration, and possibly further search, as it is a narrowing amendment that changes the scope of the claim, (i.e., further limits the length of the pressure chamber).

Additionally, Examiner notes that with respect to 35 USC 112, second paragraph, the issue mentioned with respect to claim 2 in the final rejection has not been corrected.

Also, re 35 USC 112, second paragraph, it appears that the proposed amendment creates new issues in this regard. As presented in the proposal, in claim 1, last line, it appears to be unclear what "position" is being adjusted, i.e., the "position" of what. Also in claim 4, there

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appears to be some verbiage missing in the last line between "region" and "a tool corner", such as --of--.


Re Applicant's arguments, it is noted that Applicant appears to making a number of assertions that are not relevant to the present claim language. For example, Applicant's assertions regarding Hyatt allowing only radial adjustment of the cutting edges, the ability of the present invention to have the cutting edges adjusted axially or at an angle, the fact that the cutting edges in Hyatt can only be adjusted at the end of the tool, the fact that Hyatt's tool is "limited to radial displacement of cutting edges which lie diametrically opposed to one another", the ability of the cutting edges of the present invention to be controlled "individually and independently of one another", the assertion that Hyatt's tool has pressure fluid that tends to leak from the tool ends, and has limited pressure generation, are all assertions that have no correlation to any language in the present claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Re Applicant's assertion that "there is no way" (in the Hyatt reference) "to adjust cutting edges of a boring tool that has three circumferentially distributed cutting edges (for example, the so-called 'Dreischneider')" with respect to new claim 24, Examiner notes that Hyatt does provide a teaching of a reamer head having three circumferential blades (col. 12, lines 36-39, for example), and thus, it does not appear that the mere provision of three cutting edges will overcome the Hyatt reference.

Additionally, Applicant has asserted that "[i]n other words, the cutting edges cannot be controlled individually and independently of one another, which is in direct contrast to the

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present invention as defined in Claim 1 which defines pressure chambers that are appropriately positioned together with deformable cutter support walls to provide fine adjustability of cutter positions in selected directions". However, firstly, again, there is no claim language relating to any individual and independent control of the cutting edges found in claim 1. Secondly, it does not appear that the elected embodiment of Figure 7 functions in this way, since it appears that, as described on page 15, there is only a single position adjusting pressure chamber 304 (noting that pressure chambers 17 are used to clamp a tool bit, and not to adjust the position of a cutting edge). Furthermore, Applicant's assertion that Claim 1 "defines pressure chambers that are appropriately positioned together with deformable cutter support walls to provide fine adjustability of cutter positions in selected directions" does not appear to be relevant to any assertion of "individual and independent control" of the cutting edges, nor does it appear to be an accurate characterization of the language of claim 1. Note that claim 1 does not set forth a plurality of pressure chambers and support walls, nor is any "fine adjustment" or any language relating to "selected directions" found in claim 1.



ERICA CADUGAN
PRIMARY EXAMINER
6/14/06